epitaxial layer, wherein the first conductivity type epitaxial layer, the second conductivity type epitaxial layer or the high resistance layer are present outside the V-groove and an active layer formed inside the bottom of said V-groove on the first conductivity type epitaxial layer.

29. A light emitting semiconductor device according to claim 28, wherein said active layer is sandwiched between a cladding layer inside the V-groove and the first conductive type epitaxial layer outside the V-groove, both layers being in contact with each other on a side of said V-groove.

30. A light emitting semiconductor device according to claim 28 or 29, wherein said active layer has a quantum well structure.

A1

31. A light emitting semiconductor device according to claim 29, wherein an energy gap on the first conductive type epitaxial layer outside the V-groove is greater than an energy gap on the cladding layer inside the V-groove.

32. A light emitting semiconductor device according to claim 28, wherein an inclined surface of said V-groove is a {111} B face.

33. A light emitting semiconductor device according to claim 28, wherein the first conductivity type epitaxial layer is a first conductivity type cladding layer and the second conductivity type or high resistance layer is outside the V-groove.

Sub B2

~~34. A light emitting semiconductor device according to claim 33, wherein a second~~

optical guiding layer having a refractive index lower than that of said active layer and higher than that of said third cladding layer is provided between said active layer and said third cladding layer.

Sub B2 (Contd)

35. A light emitting semiconductor device according to claims 33 or 34, wherein said first cladding layer and said first optical guiding layer are of the same first conductivity type, said third cladding layer and said second optical guiding layer are of the same second conductivity type, and said second cladding layer is of second conductivity type or has high resistance.

36. A light emitting semiconductor device according to claim 33, wherein said V-groove is formed by vapor phase etching.

37. A light emitting semiconductor device according to claim 28, wherein said light emitting semiconductor device is a laser diode.

A1

38. A semiconductor device comprising a V-groove having a V-shaped cross-section on a semiconductor substrate or on an epitaxial growth layer grown on a semiconductor substrate, and a strained active layer is provided only at the bottom of said V-groove.

39. A semiconductor device according to claim 38, wherein said active layer is sandwiched between a cladding layer inside the V-groove and a cladding layer outside the V-groove, both cladding layers being in contact with each other on a side of said V-groove.

40. A semiconductor device according to claim 38 or 39, wherein said active layer has a quantum well structure.

41. A semiconductor device according to claim 39, wherein an energy gap on the cladding layer outside the V-groove is greater than an energy gap on the cladding layer inside the V-groove.

42. A semiconductor device according to claim 38, wherein an inclined surface of said V-groove is a {111} B face.

43. A semiconductor device according to claim 39, wherein an optical guiding layer having a refractive index lower than that of said active layer and higher than that of the cladding layer inside the V-groove is formed between said active layer and said cladding layer inside said V-groove.

44. A semiconductor device according to claim 43, wherein conductivity type of the cladding layer inside said V-groove is different from that of the cladding layer outside said V-groove.

45. A semiconductor device according to claims 43 or 44, wherein conductivity type of the cladding layer inside said V-groove is identical with that of said optical guiding layer.

46. A semiconductor device according to claims 43 or 44, wherein said active layer has a quantum well structure.

~~47. A semiconductor device according to claim 43, wherein an energy gap of the claddinglayer outside said V-groove is greater than an energy gap of the cladding layer inside said~~

Sub B3 Cont'd ~~V-groove~~.

48. A semiconductor device according to claim 43, wherein an inclined surface of said V-groove is a {111} B face.

49. A semiconductor device according to claim 43, wherein said V-groove is formed by vapor phase etching.

50. A light emitting semiconductor device according to claim 33, wherein said active layer is strained.

51. A light emitting semiconductor device according to claim 28, further comprising a protective layer for the V-groove on the upper surface of the device.

52. A semiconductor device according to claim 38, further comprising a protective layer for the V-groove on the upper surface of the device.

53. A light emitting semiconductor device comprising a semiconductor substrate, a first conductivity type epitaxial and a second conductivity type epitaxial layer or a high resistance epitaxial layer stacked one upon another, a V-groove having a V-shaped cross-section on the semiconductor substrate, wherein an inclined surface of said V-groove is formed from the first conductivity type epitaxial layer to the second conductivity type epitaxial layer or the high resistance epitaxial layer, a bottom of the V-groove lies in said first conductivity type epitaxial layer, a side wall of the V-groove is in contact with the second conductivity type epitaxial layer or the high

resistance epitaxial layer, wherein the first conductivity type epitaxial layer, the second conductivity type epitaxial layer or the high resistance epitaxial layer are present outside the V-groove, and a strained active layer is formed inside the bottom of said V-groove on the first conductivity type epitaxial layer.

54. A semiconductor device according to claim 38, wherein said semiconductor device is a laser diode.--